

WHAT IS CLAIMED AS NEW AND DESIRED TO BE PROTECTED BY LETTERS
PATENT OF THE UNITED STATES OF AMERICA, IS:

1. A swivel joint assembly, for use within a hot melt adhesive dispensing system, comprising:
- 5 a housing member defined about a longitudinal axis;
 a first connector mounted upon said housing member for connection to a hose member for supplying hot melt adhesive material into said housing member;
- 10 a shaft member disposed within said housing member for rotation around said longitudinal axis of said housing member between a **DISPENSING** position and a **NON-DISPENSING** position;
- a second connector mounted upon said shaft member
15 for connection to a hot melt adhesive applicator for dispensing hot melt adhesive material onto a substrate during a hot melt adhesive material application phase of a hot melt adhesive material application cycle; and
- ball bearing means interposed between said shaft
20 member and said housing member for facilitating said rotation of said shaft member around said longitudinal axis of said housing member between said **DISPENSING** position and said **NON-DISPENSING** position despite a substantial increase in line pressure of the hot melt adhesive material, disposed within
25 said swivel joint assembly when the hot melt adhesive applicator is deactivated so as not to dispense any hot melt adhesive material, wherein such increased line pressure would normally tend to prevent said rotation of said shaft member with respect to said housing member due to hydraulic lock
30 conditions.

2. The swivel joint assembly as set forth in Claim 1, wherein:

5 said ball bearing means comprises an annular array of ball bearing members disposed around said longitudinal axis of said housing member.

3. The swivel joint assembly as set forth in Claim 1, further comprising:

15 rotary seal members interposed between said shaft member and said housing member for sealing the interface defined between said shaft member and said housing member so as to prevent the hot melt adhesive, disposed within said swivel joint assembly, from fouling said ball bearing means.

4. The swivel joint assembly as set forth in Claim 1, further comprising:

25 rotary seal members interposed between said shaft member and said housing member for withstanding elevated temperature levels characteristic of the hot melt adhesive disposed within said swivel joint assembly so as to ensure the sealing of the interface defined between said shaft member and said housing member.

30 5. The swivel joint assembly as set forth in Claim 4, wherein:

said rotary seal members are selected from the group comprising **FKM(VITON)**[®] and **FFKM(KALREZ)**[®].

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6. The swivel joint assembly as set forth in Claim 1, wherein:

said housing member, said first connector mounted upon said housing member, said shaft member, and said second
10 connector mounted upon said shaft member are all coaxially aligned with respect to each other along said longitudinal axis of said housing member.

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7. The swivel joint assembly as set forth in Claim 1, wherein:

said housing member, said shaft member, and said second connector mounted upon said shaft member are all co-
20 axially aligned with respect to each other along said longitudinal axis of said housing member; and

said first connector mounted upon said housing member is disposed substantially perpendicular to said longitudinal axis of said housing member.

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8. A hot melt adhesive dispensing system, comprising:

a housing member defined about a longitudinal axis;
30 a hose member for supplying hot melt adhesive material into said housing member;

a first connector mounted upon said housing member for enabling connection of said hose member to said housing member;

5 a shaft member disposed within said housing member for rotation around said longitudinal axis of said housing member between a **DISPENSING** position and a **NON-DISPENSING** position;

10 a hot melt adhesive applicator for dispensing hot melt adhesive material onto a substrate during a hot melt adhesive material application phase of a hot melt adhesive material application cycle;

a second connector mounted upon said shaft member for enabling connection of said hot melt adhesive applicator to said shaft member; and

15 ball bearing means interposed between said shaft member and said housing member for facilitating said rotation of said shaft member around said longitudinal axis of said housing member so as to rotatably move said hot melt adhesive applicator between said **DISPENSING** position and said **NON-DISPENSING** position despite a substantial increase in line pressure of the hot melt adhesive material, disposed within said swivel joint assembly when said hot melt adhesive applicator is deactivated so as not to dispense any hot melt adhesive material, wherein such increased line pressure would normally
20 tend to prevent said rotation of said shaft member with respect to said housing member due to hydraulic lock conditions.
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9. The hot melt adhesive dispensing system as set forth in

Claim 8, wherein:

said ball bearing means comprises an annular array of ball bearing members disposed around said longitudinal axis of said housing member.

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10. The hot melt adhesive dispensing system as set forth in Claim 8, further comprising:

10 rotary seal members interposed between said shaft member and said housing member for sealing the interface defined between said shaft member and said housing member so as to prevent the hot melt adhesive, disposed within said swivel joint assembly, from fouling said ball bearing means.

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11. The hot melt adhesive dispensing system as set forth in Claim 8, further comprising:

20 rotary seal members interposed between said shaft member and said housing member for withstanding elevated temperature levels characteristic of the hot melt adhesive disposed within said swivel joint assembly so as to ensure the sealing of the interface defined between said shaft member and said housing member.

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12. The hot melt adhesive dispensing system as set forth in Claim 11, wherein:

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said rotary seal members are selected from the

group comprising FKM(VITON)[®] and FFKM(KALREZ)[®].

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13. The hot melt adhesive dispensing system as set forth in Claim 8, wherein:

10 said housing member, said first connector mounted upon said housing member, said shaft member, and said second connector mounted upon said shaft member are all coaxially aligned with respect to each other along said longitudinal axis of said housing member.

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14. The hot melt adhesive dispensing system as set forth in Claim 8, wherein:

20 said housing member, said shaft member, and said second connector mounted upon said shaft member are all coaxially aligned with respect to each other along said longitudinal axis of said housing member; and

 said first connector mounted upon said housing member is disposed substantially perpendicular to said longitudinal axis of said housing member.

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15. A method of operating a hot melt adhesive dispensing system, comprising the steps of:

30 connecting a hose member, for supplying hot melt adhesive material, to a housing member which is defined

around a longitudinal axis;

connecting a hot melt adhesive applicator, for dispensing hot melt adhesive material onto a substrate during a hot melt adhesive material application phase of a hot melt adhesive material application cycle, to a shaft member which is disposed within said housing member for rotation around said longitudinal axis of said housing member between a **DISPENSING** position and a **NON-DISPENSING** position such that said hot melt adhesive applicator can move between said **DISPENSING** position and said **NON-DISPENSING** positions; and

interposing ball bearing means between said shaft member and said housing member for facilitating said rotation of said shaft member, and said hot melt adhesive applicator connected to said shaft member, around said longitudinal axis of said housing member between said **DISPENSING** position and said **NON-DISPENSING** position despite a substantial increase in line pressure of the hot melt adhesive material disposed within said swivel joint assembly, when said hot melt adhesive applicator is deactivated so as not to dispense any hot melt adhesive material, wherein such increased line pressure would normally tend to prevent said rotation of said shaft member with respect to said housing member due to hydraulic lock conditions.

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16. The method as set forth in Claim 15, further comprising the step of:

disposing said ball bearing means as an annular array of ball bearing members around said longitudinal axis of said housing member.

17. The method as set forth in Claim 15, further comprising the step of:

interposing rotary seal members between said shaft member and said housing member for sealing the interface defined between said shaft member and said housing member so as to prevent the hot melt adhesive, disposed within said hot melt adhesive dispensing system from fouling said ball bearing means.

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18. The method as set forth in Claim 15, further comprising the step of:

interposing rotary seal members between said shaft member and said housing member for withstanding elevated temperature levels characteristic of the hot melt adhesive disposed within said hot melt adhesive dispensing system so as to ensure the sealing of the interface defined between said shaft member and said housing member.

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19. The method as set forth in Claim 18, further comprising the step of:

fabricating said rotary seal members from one of the group comprising **FKM(VITON)**[®] and **FFKM(KALREZ)**[®].

20. The method as set forth in Claim 15, further comprising the step of:

coaxially aligning said housing member, said first
connector mounted upon said housing member, said shaft mem-
ber, and said second connector mounted upon said shaft member
with respect to each other along said longitudinal axis of
5 said housing member.

21. The method as set forth in Claim 15, further comprising
10 the steps of:

coaxially aligning said housing member, said shaft
member, and said second connector mounted upon said shaft
member with respect to each other along said longitudinal
axis of said housing member; and
15 orienting said first connector mounted upon said
housing member substantially perpendicular to said longitud-
inal axis of said housing member.

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